

Just Gabbin' About Cables



Cables are your commo highway.

Your SINCGARS vehicular radio must be hooked up correctly—the right cables going to the right connections—or your signal grinds to a halt like a car snarled in rush-hour traffic. Bent pins and broken wires roadblock your signal and never let it reach its destination.

Check the cabling every time you pull PMCS. Here are some cable routing tips, hookup hints and PMCS tips to help with those checks:

Long Range Cables

Your SINCGARS long range/long range (LR/LR) vehicular radio

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has twice the number of components of other SINCGARS radios: two receiver-transmitters (RTs), two power-amplifiers and two antennas.

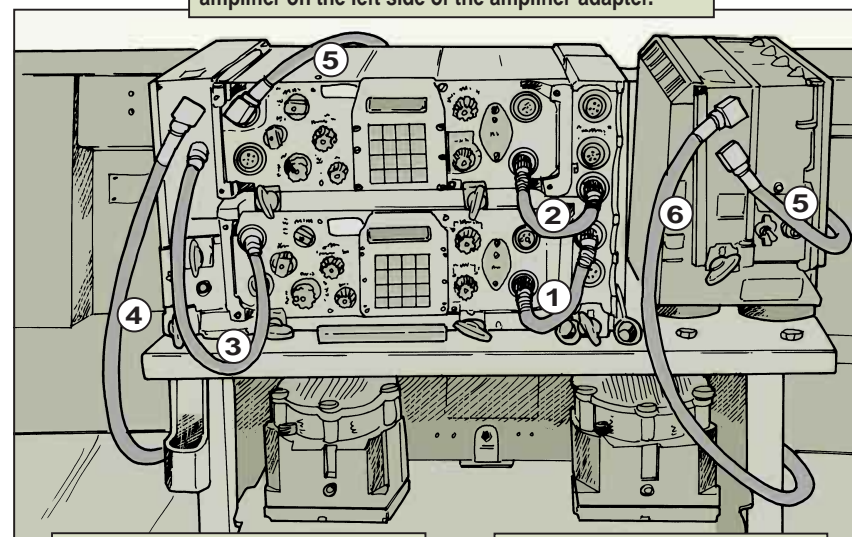
That makes cable hookup twice as confusing. And it doesn't help that the RF cables look alike. A cable connected to the wrong receptacle can silence your commo or overload a power amplifier.

You can clear up cable confusion in two easy steps. The first step is to learn **where** the cables go.

1. W-4 audio cable from the AUD/DATA connector on the lower RT goes to the J5 connector on the AM-7239 amplifier-adapter.

2. W-4 audio cable from the AUD/DATA connector on the upper RT goes to the J4 connector on the amplifier-adapter.

3. W-2 RF cable from the ANT connector on the lower RT goes to the J2 connector on the AM-7238 power amplifier on the left side of the amplifier-adapter.



4. CG-3855 RF cable from the J1 connector on the first power amplifier goes to the first vehicular antenna.

5. CG-3856 RF cable from the ANT connector on the upper RT goes to the J2 connector on the second AM-7238 power amplifier.

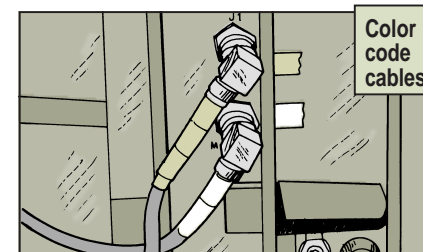
6. CG-3855 RF cable from the J1 connector on the second power amplifier goes to the second vehicular antenna.

The second step is to color code cables and receptacles for quick identification. Color coding with tape makes it easy to mate cables to the right receptacles.

Just put colored tape below the cable connectors and at their receptacles.

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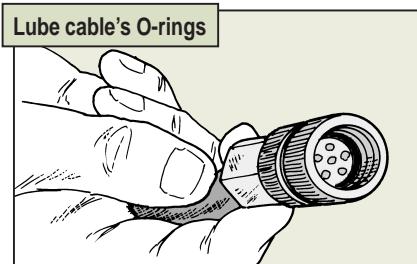
Here are some tapes to help identify connections:

Color	NSN 7510-00-
Black	551-8474
Dark blue	550-7124
Green	550-7129
Red	550-7126
White	550-7127
Yellow	550-7125

Additional W4 Stuff

The W4 audio cable on your vehicular SINGARS connects the AUD/DATA connector on the receiver-transmitter to the DATA connector on the AM-7239 amplifier-adaptor.

You must lube the cable's O-rings with a dab of silicone, NSN 6850-00-880-7616. Without lube, it's tough to make a good connection. You'll end up pushing, twisting and forcing a connection. That leads to damaged keyways, stripped threads and bent or broken pins.



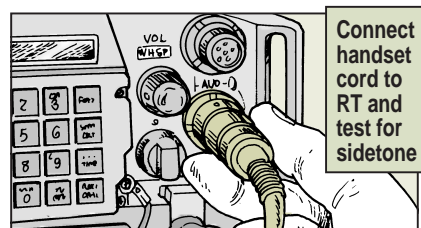
With silicone, the connectors will slide on without a hitch.

Don't unhook connections by yanking on the cable's insulation. That just bends and breaks the delicate inside wiring.

Unhook connections by pushing the connector in and turning it counter-clockwise. It will easily disconnect.

When you reconnect, make sure the connection is tight.

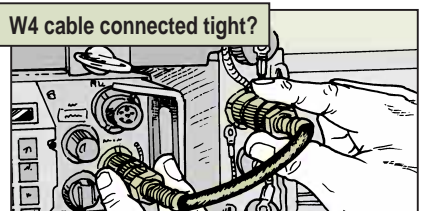
If the W4 cable connections are good, but you still can't hear sidetone, disconnect the W4 cable from the RT. Then connect the H-250 handset cord to the AUD/DATA connector on the RT. Test again for sidetone.



If you can hear sidetone, the likely culprit is a bad W4 cable, not the handset or the RT.

When you hook up the W4 cable or the handset, do it right:

■ Depending on the type of cable connector you have, line up the flat or raised part of the cable connector with the top of the receptacle.



- Push in the connector firmly.
- Turn it to the right.

Some Fill Cable Stuff

Always use the W4 ECCM fill cable, NSN 5810-01-066-7587, when you connect the ECCM fill device to your

SINGARS RT. It makes hookup easier and also prevents damage to connector pins.

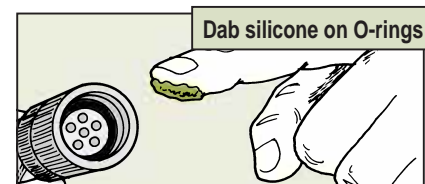
Trying a direct hookup between the fill device and the RT's AUD/FILL connector spells double trouble.

For one thing, it's hard to connect the fill device to the lower RT in a vehicle. The thumbscrew on the mount gets in the way.

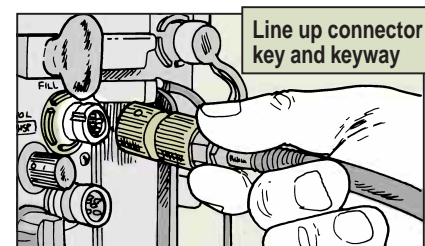
For another, you risk bending or breaking connector pins on the RT and the fill device with a direct hookup. Then you won't be able to load frequency-hopping data into the RT.

Follow these tips when using the fill cable:

- Look at all connectors for damaged or missing contacts. That includes connectors on the fill cable, the fill device and the RT itself. Report problems to your unit repairer.
- For an easier hookup, put a light coat of silicone, NSN 6850-00-880-7616, on the fill cable's O-rings.



- When it comes time to connect the fill cable to the RT, line up the keys



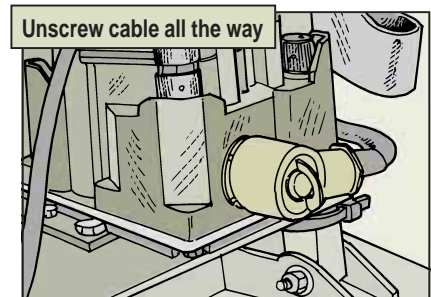
and keyways on the connectors. Do that by making sure the flat surface of the cable connector is facing up. Newer fill cables have a raised area with a red line. That red line should face up also.

Push the cable connector all the way in on the AUD/FILL connector. Then turn it clockwise until it snaps into place. Pull lightly outward on the connector to make sure it's locked into place.

Splitter Cable

There aren't enough receptacles to hook up all the power cables needed on both LS-671 loudspeakers when your vehicular SINGARS is in the short range/long range or long range/long range configuration. For these configurations, you need the CX-13417 splitter cable, NSN 5995-01-348-2264.

Halfway is not enough when you unscrew the primary power cable from the LS-671 loudspeaker on your SINGARS vehicular radio. It's all the way or nothing.



You need to unscrew the cable's connector the whole way before trying to unhook the cable. Some folks stop halfway. Then they yank and twist the cable in a vain effort to take it off. That just puts stress on the circuitry inside the

J1 connector. If the circuitry gets damaged, no power gets through to the loudspeaker.

Some Old Stuff

If you're just now replacing the AN/VRC-12-series radio in your HMMWV with a SINCGARS radio, remember to replace the RF cable, too.

You need to replace the AN/VRC-12-series' CG-1773 RF cable with the SINCGARS CG-3855 RF cable.

The CG-3855 is double-shielded to protect your digital and voice transmission from electromagnetic interference (EMI). The CG-1773 is not double-shielded.

EMI can create noise during voice transmission and cause loss of data during digital transmission.

Depending on your SINCGARS configuration, you need one 21-ft CG-3855 cable, NSN 5995-01-225-1660, or two 18-ft CG-3855 cables, NSN 5995-01-219-7035. To get the whole story, see TB 11-5820-890-20-90, Installation Instructions for Installation Kit, Electronic Equipment, MK-2328/VRC.

The CG-3855 cables are included in the installation kit, or you can order them separately.

You need to take extra care when making connections with the RF cables and connectors. They're not as rugged as other cables and connectors on the radio, so they're more prone to damage from a sloppy hookup.

The secret to making a successful connection is playing it straight. Line up the RF cable keyway with the connector key. Push the cable straight in. Turn the connector to the right. To unhook the cable, push the connector in a little, turn it to the left and pull straight out.

If you push or pull the cable at even a slight angle, you risk breaking the center pin. You'll have to replace the cable. If the pin lodges in the receptacle, support will have to replace the connectors on the RT or the power amplifier. On some older models, they may have to replace an entire front panel or subassembly.

